

**REMARKS/ARGUMENTS**

Applicant gratefully acknowledges allowance of claims 329-391 and 576-602. Applicant has made a number of housekeeping amendments to these claims which are not believed to alter the scope of the claims. The following arguments are presented in response to the outstanding rejections.

**Rejections under 35 USC §112, Second Paragraph**

The examiner rejected claims 492, 493, 570, 572, and 575 under 35 USC §112, second paragraph. The claims have been amended in a manner believed to overcome the rejections. The amendments do not narrow the claims.

**Rejections under 35 USC §102****-Rejection over "Blanco" (US Pat. No. 5,783,525)**

The examiner rejected claims 508, 509, and 512 as anticipated under 35 USC 102(b) as anticipated by Blanco et al (US Pat. No. 5,783,525). Claims 508, 509, and 512 have been amended in a manner believed to overcome the rejection.

**-Rejection over "House" (U.S. Pat. No. 5,977,030)**

The examiner rejected claims 413-415, 422, 425, 429, 430, 432-435, 440, 441, 446-471, 474, 476, 481, 482, 484, 487-500, 508-524, 531, 534, 540-544, 549-551, 555, 556, 560-562, 566-575 under 35 USC 102(b) as anticipated by House (U.S. Pat. No. 5,977,030). The examiner contends that House teaches a water in oil fluid which is used as a drilling fluid which comprises an oligosaccharide surfactant and a xanthan polymer. The examiner contends that, "along with the combination of surfactant and polymer, House clearly teaches that low shear rate viscosity (LSRV) improvement is one of the features of the fluid disclosed therein (column 1, lines 61-65).

Applicant has not given any reason why the combination of surfactant and polymer, in view of the LSRV teaching of House would differ from the present invention." Office action, p. 4

Response

The examiner has not pointed to a teaching in House of the claimed "surfactant in association with said water soluble polymer." As best as Applicant can interpret House, the "water soluble polymer" and the "surfactant" in House are the same—specifically, the "OSM" or the "oligosaccharide mixture."

The claims clearly are directed to fluids in which the surfactant and the water-soluble polymer are two different components. Only two different components are capable of "associating" with one another. As explained in the specification:

The drilling fluid comprises a quantity of one or more surfactants which bind to the polymer. The surfactant(s) are believed to associate with the polymers, lowering interfacial properties, such as surface tension, and forming complex associations between the polymer and surfactant. The result is increased viscosification or gelation characterized by a micellar-type aggregate along the backbone of the polymer chain.

The type of surfactant used in a given fluid will vary with the type of polymer and the charge of pendant groups on the polymer. Where the polymer comprises groups susceptible to hydrogen bonding, the surfactant is substantially non-ionic, and more susceptible to forming hydrogen bonds with the surfactant. Where the polymer comprises pendant groups that are susceptible to ionic bonding, the surfactant is cationic or anionic. A variety of surfactants may be used as long as the surfactant bonds or associates with pendant groups on the polymer to produce three dimensional structures that are effective to increase the viscosity of the drilling fluid to a desired level.

Specification, p. 6, l. 23 - p.7, l. 13.

In contrast, the surfactant necessarily present in House is the OSM (oligosaccharide mixture), itself. House explains that the oil (or the oleaginous liquid) "is emulsified in the polysaccharide-containing aqueous phase by the OSM [or oligosaccharide mixture] and, if present, the AEMOOH" or metal hydroxide. House, col. 4, ll. 16-18.

With respect to desired viscosity, House teaches that "an emulsion having the desired viscosity" is produced in his fluids by:

the concentrations of OSM (oligosaccharide mixture);

oleaginous liquid (or internal oil phase), and

AEMOOH (metal hydroxide).

House, col. 3, ll. 47-48. The examiner has not pointed to any teaching that a surfactant associates with a water soluble polymer in House for any particular reason, much less to provide effective rheology and fluid loss control.

Other possible surfactant components are mentioned in House. Specifically, House teaches that:

The oil-in-water emulsion of the present invention may also contain aphrons. This is accomplished by incorporating a compatible foaming surfactant into the emulsion and thereafter generating the aphrons.

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The surfactant for generating the aphrons should be compatible with the oil-in-water emulsion such that the LSRV or the stability of the emulsion are not appreciably decreased. The surfactant may be non-ionic, anionic, cationic, or amphoteric as determined by routine testing.

House, col. 6, ll. 1-17. House also teaches that "lubricity additives, shale control additives . . .

[and/or] "additional emulsifiers" may be used. House, col. 5, ll. 16-17.

However, the examiner has not pointed to any teaching that either the OSM or any of the foregoing possible surfactants are "in association with [the] water soluble polymer" at all. The claims also require the production of effective rheology and fluid loss control properties by the claimed components. The examiner clearly has not pointed to a teaching in House of a fluid "wherein [the] quantity [of water soluble polymer] , [the] amount [of surfactant in association with the water soluble polymer], and [the] association provide [the] water based

drilling fluid with effective rheology and fluid loss control properties." Claim 413, emphasis added. *Crown Operations Int'l Ltd. v. Solutia Inc.*, 62 U.S.P.Q.2d 1917, 1922-1923 (Fed Cir. 2002).

#### Rejection over Peignier

The examiner also rejected claims 413-435, 440-444, 446-471, 476-501, 508-544, and 549-575 as anticipated by U.S. Patent No. 4,894,335 to Peignier. The examiner contends that Peignier contains the claimed components and would "inherently have fluid loss and reduced surface tension properties within the scope of the present invention.

#### Response

Claim 413 has been amended to specify that the claimed water based drilling fluid comprises "a low shear rate viscosity of about 70,000 cP or more upon exposure to 0.3 rpm, measured with a Brookfield viscometer at 75 °F." The examiner has not pointed to a teaching of the foregoing property in Peignier.

Peignier describes "[s]table oil-in-water emulsions containing a relatively high concentration of from 8 to 60% by weight of a heteropolysaccharide biopolymer." Peignier, abstract. Peignier explains "that the major disadvantage of biogum powders is the difficulty in... dissolving them rapidly without agitation with a high shear effect, which could cause a degradation of certain properties." Peignier, col. 1, ll. 29-35. Hence, "[t]he major object of [Peignier] is the provision of novel compositions having relatively high biopolymer concentrations that are pumpable, storage stable, and permit rapid dissolution at an industrial site." Peignier, col. 1, ll. 49-53.

The examiner has not pointed to a teaching or suggestion in Peignier regarding the viscosity of Peignier's stable emulsions at low shear rate, and certainly has not pointed to a

teaching that Peignier's emulsions have a low shear rate viscosity of about 70,000 cP or more upon exposure to 0.3 rpm, measured with a Brookfield viscometer at 75 °F. If the examiner is inclined to maintain the rejection of claim 413, and claims depending therefrom, as amended, then the examiner must contend that Peignier inherently anticipates those claims. The examiner has not established a *prima facie* case of inherent anticipation.

Where--as here--a property of a structure appears in a claim, the examiner cannot establish a case of *prima facie* anticipation merely by establishing that a reference discloses the same structure as a claimed apparatus. *Crown Operations Int'l Ltd. v. Solutia Inc.*, 62 U.S.P.Q.2d 1917, 1922-1923 (Fed Cir. 2002). The examiner cannot establish inherent anticipation without establishing that the property necessarily is present in the structure.

In *Crown*, the claims at issue required a solar control film that contributed no more than about two percent visible reflectance. *Crown* argued that the patent in suit "merely claims a preexisting property inherent in the structure disclosed in the prior art." *Id.* at 1922. The Federal Circuit refused to accept *Crown*'s proposition that, where a prior art reference discloses the same structure as claimed by a patent, a claimed property of the structure should be assumed. The Federal Circuit held that "[i]f the two percent limitation is inherently disclosed in the *Gillary* patent, it must be necessarily present and a person of ordinary skill in the art would recognize its presence." *Id.* at 1922-1923 (emphasis added).

The examiner has not established that Peignier's emulsions necessarily have a low shear rate viscosity of about 70,000 cP or more upon exposure to 0.3 rpm, measured with a Brookfield viscometer at 75 °F. Nor has the examiner established that a person of ordinary skill in the art would recognize that Peignier's emulsions would have a low shear rate viscosity of about 70,000 cP or more upon exposure to 0.3 rpm, measured with a Brookfield viscometer at 75 °F.

To the extent that the viscosity of Peignier's emulsions is described, the viscosities given are much lower than 70,000 cP. Referring to col. 5, l. 64, Peignier states that viscosity measurements were made at "23 °C, by means of Brookfield viscosimeter, model RTV, needle No. 2, rotating at a speed of 10 rpm." The measurements in the Table at col. 6, l. 1 are much lower than 70,000 cP. See also examples.

Applicant respectfully requests that the rejection for anticipation over Peignier be withdrawn.

The examiner did not issue an alternative rejection for *prima facie* obviousness over Peignier. In order to establish that the claims are *prima facie* obvious over Peignier, the examiner must point to two things in Peignier, and not in the applicant's disclosure—(1) the suggestion of the invention, and (2) the expectation of its success. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991). See also MPEP 2143. The examiner has not pointed to a teaching in Peignier of a water based drilling fluid comprising "a low shear rate viscosity of about 70,000 cP or more upon exposure to 0.3 rpm, measured with a Brookfield viscometer at 75 °F." Absent such a teaching, the examiner also cannot point to the required teaching of an expectation of success.

The examiner cannot establish *prima facie* obviousness that a fluid having the claimed low shear rate viscosity could be derived by modifying Peignier's emulsions to have the required low shear rate viscosity if such a modification is not taught or suggested by Peignier, itself, or by another cited reference. In order to establish *prima facie* obviousness, the examiner has the burden to point to a teaching or suggestion in the references themselves that it would be desirable to make such a modification. MPEP 2143.01; *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995). The examiner has not met this burden.

**Reason for Amendment of "comprising" to "of"**

In a number of the claims, the phrase "said effective rheology and fluid loss control properties comprise a low shear rate viscosity comprising about 70,000 cP or more" has been amended to read "said effective rheology and fluid loss control properties comprise a low shear rate viscosity of about 70,000 cP or more." The use of the second word "comprising" is believed to be unclear, and the open ended nature of the claim is believed to be preserved by the use of the open-ended term "comprises" in defining "effective rheology and fluid loss control properties." In other words, the amendment is believed to render the claim more clear, and is not believed to narrow the scope of the relevant claims. The same is true with respect to a number of other housekeeping amendments made herein.

**CONCLUSION**

For all of the foregoing reasons, Applicants respectfully request allowance of all of the pending claims. The Commissioner is hereby authorized to charge any fees in connection with this response, or to credit any overpayment, to Deposit Account No. 02-0429 maintained by Baker Hughes Incorporated.

Respectfully submitted,



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